

We claim:

1 1. A method for controlling an electronic device comprising:  
 2 receiving one or more bioacoustic signals, each signal related to one or more hand  
 3 gestures;  
 4 determining the identity of the one or more hand gestures based on a positive correlation  
 5 between the received signals and predetermined hand gesture data; and  
 6 selectively issuing one or more commands associated with the identified hand gesture for  
 7 activating one or more functions of the electronic device.

1 2. The method of claim 1, wherein the one or more hand gestures includes a first gesture  
 2 which reflects contact between a thumb and an index finger of a human hand, a second gesture  
 3 which reflects contact between the thumb and a middle finger of the human hand, a third gesture  
 4 which reflects contact between the thumb and a ring finger of the human hand, a fourth gesture  
 5 which reflects contact between a finger and a fingernail, a fifth gesture which reflects non-  
 6 contact between one or more fingers, a sixth gesture which reflects contact based on a  
 7 displacement threshold and a seventh gesture which reflects contact based on a pressure  
 8 threshold.

1 3. The method of claim 1, further comprising activating a wireless transmitter to transmit  
 2 the command.

1 4. The method of claim 1, further comprising:  
 2 amplifying the bone-conducted sound based signals; and  
 3 digitizing the bone-conducted sound based signals.

1 5. The method of claim 1, further comprising:  
 2 transmitting the command with a wireless transmitter.

- 1 6. The method of claim 1, further comprising:  
2 encrypting the one or more commands associated with the detected hand gesture.
- 1 7. The method of claim 1, further comprising:  
2 decrypting the one or more commands associated with the detected hand gesture into one  
3 or more electronic device commands.
- 1 8. The method of claim 1, further comprising:  
2 transmitting the one or more commands command with a wireless transmitter.
- 1 9. The method of claim 1, further comprising:  
2 narrowcasting the one or more commands with a wireless transmitter to the electronic  
3 device.
- 1 10. A wrist adaptable wireless apparatus for invoking functions of a portable wireless device,  
2 comprising:  
3 a processor coupled to at least one piezo-electric contact microphone which receives  
4 sensor signal data;  
5 a storage facility for storing a plurality of gesture patterns, wherein the processor is  
6 operative to compare sensor signal data with the plurality of gesture patterns, to detect a  
7 substantial match between the sensor signal data and one of the plurality of gesture patterns, and  
8 to select one of a plurality of user input commands associated with the match, wherein the  
9 plurality of user input commands correspond to a plurality of functions of the portable wireless  
10 device; and a wireless transmitter coupled to said processor and operative to wirelessly transmit  
11 the user input command to the portable wireless device.
- 1 11. The apparatus of claim 10, further comprising:  
2 a portable power supply.

12. The apparatus of claim 10, wherein the apparatus senses bone-conducted sound of a human hand.

13. The apparatus of claim 10, wherein the apparatus is configured as a wristwatch.

14. A wireless control system comprising:  
a bioacoustic sensor component;  
a digital processor coupled to the sensor component;  
a storage component for storing gesture pattern data indicative of a plurality of gestures, each gesture corresponding to a unique one of a plurality of electronic device commands wherein the processor is operative to compare acoustic sensor signals with the gesture pattern data and to select one of the electronic device commands corresponding to a gesture that correlates with the acoustic sensor signals; and  
a wireless transmitter and antenna coupled to the processor and operative to transmit the electronic device command.

15. The system of claim 14, wherein the transmitter is embedded in a ring structure.

- 1 16. The system of claim 14, further comprising:  
2 an audio component for providing user feedback when a gesture is sensed.
- 1 17. The system of claim 14, wherein the system is operative for receiving information from a  
2 plurality of external information sources.
- 1 18. The system of claim 14, wherein the processor, storage component and wireless  
2 transmitter and antenna are remotely located away from bioacoustic sensor component.
- 1 19. The system of claim 14, wherein the band is comprised in part of piezo-electric material.
- 1 20. A method comprising:  
2 training a user in one or more hand gestures so that the one or more hand gestures  
3 corresponds to one or more device commands;  
4 receiving one or more bioacoustic signals, each signal related to the one or more hand  
5 gestures;  
6 determining the identity of the one or more hand gestures based on a positive correlation  
7 between the received signals and predetermined hand gesture data; and  
8 transmitting one or more commands associated with the identified hand gesture for  
9 activating one or more functions of the electronic device.